

55-80632BB-00 A7

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FEBRUARY 2007

LHC013A	LHC014A
LHC015A	LHC028A
LHC029A	LHC030A
LHC031A	LHC036A
LHC040A	LHC041A
LHC042A	LHC043A

Miniature Media Converter 10/100 Switching



CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S.: **877-877-BBOX** (outside U.S. call **724-746-5500**)
FREE technical support, 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**
Mail order: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018
Web site: **www.blackbox.com** • E-mail: **info@blackbox.com**

FCC and Industry Canada RF Interference Statements

Class B Digital Device. This equipment has been tested and found to comply with the limits for a Class B computing device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. If this equipment does cause harmful interference to radio or telephone reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an experienced radio/TV technician for help.

CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To meet FCC requirements, shielded cables and power cords are required to connect this device to a personal computer or other Class B certified device.

This digital apparatus does not exceed the Class B limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Notes

Notes

Normas Oficiales Mexicanas (NOM) Electrical Safety Statement

Instrucciones de Seguridad

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc..
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquear la ventilación. No se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.

15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.

16. El cable de corriente deberá ser desconectado cuando el equipo no sea usado por un largo período de tiempo.

17. Cuidado debe ser tomado de tal manera que objecos líquidos no sean derramados sobre la cubierta u orificios de ventilación.

18. Servicio por personal calificado deberá ser provisto cuando:

    a. El cable de poder o el contacto ha sido dañado; u

    b. Objectos han caído o líquido ha sido derramado dentro del aparato; o

    c. El aparato ha sido expuesto a la lluvia; o

    d. El aparato parece no operar normalmente o muestra un cambio en su desempeño; o

    e. El aparato ha sido tirado o su cubierta ha sido dañada.

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E-mail: info@blackbox.com

Safety Certifications

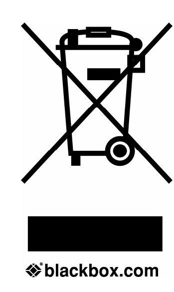
UL/CUL: Listed to Safety of Information Technology Equipment, including Electrical Business Equipment.






**Class 1 Laser product, Luokan 1 Laserlaite,
Laser Klasse 1, Appareil A'Laser de Classe 1**

European Directive 2002/96/EC (WEEE) requires that any equipment that bears this symbol on product or packaging must not be disposed of with unsorted municipal waste. This symbol indicates that the equipment should be disposed of separately from regular household waste. It is the consumer's responsibility to dispose of this and all equipment so marked through designated collection facilities appointed by government or local authorities. Following these steps through proper disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about proper disposal, please contact local authorities, waste disposal services, or the point of purchase for this equipment.



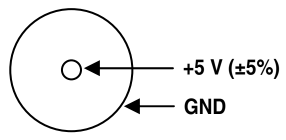
LED Operation

Each Miniature Media Converter 10/100 Switching includes two LEDs, located on the RJ45 connector:

- **FX LNK/ACT**: Glows green when a link is established on the fiber port; blinks green when activity is detected on the fiber port.
- **TX LNK/ACT**: Glows amber when a link is established on the copper port; blinks amber when activity is detected on the copper port.

Specifications

Power
AC Input: 100/240 VAC ±10%, 50/60 Hz
DC Output: 0.25 A @ 5VDC (1 A maximum)
Power Consumption: 600 mA @ 5 VDC



Operating Temperature:
32° to 122° F (0° to 50° C)

Storage Temperature:
-13° to 158° F (-25° to 70° C)

Humidity:
5 to 90% (non-condensing); 0 to 10,000 ft. altitude

Shipping weight:
0.75 lbs. (0.34 kg)

Dimensions:
0.83"H x 1.80"W x 3.35"D (2.1 cm x 4.6 cm x 8.5 cm)

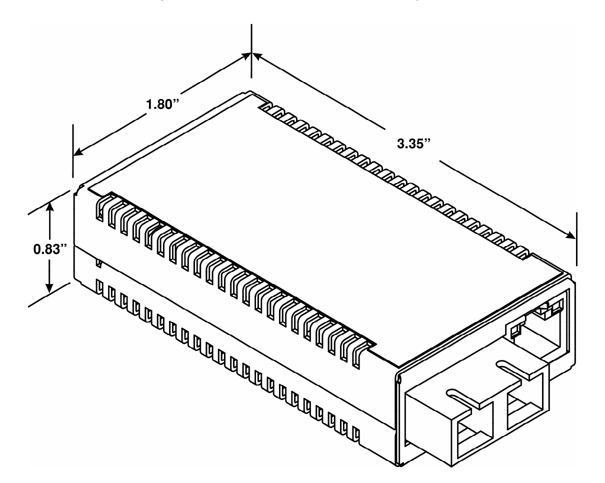


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Miniature Media Converter 10/100 Switching Part Numbers

The part numbers include the following:

Part Number	Port 1	Port 2	Speed	Media 1	Media 2	Dist.
LHC040A	RJ45	ST	10/100 Mbps	Ethernet	MM-850	300 m
LHC041A	RJ45	SC	10/100 Mbps	Ethernet	MM-850	300 m
LHC013A	RJ45	ST	10/100 Mbps	Ethernet	MM-1300	2 km
LHC014A	RJ45	SC	10/100 Mbps	Ethernet	MM-1300	2 km
LHC036A	RJ45	ST	10/100 Mbps	Ethernet	SM-1310	40 km
LHC015A	RJ45	SC	10/100 Mbps	Ethernet	SM-1310	40 km
LHC042A	RJ45	SC	10/100 Mbps	Ethernet	SS-MM-1310	2 km
LHC043A	RJ45	SC	10/100 Mbps	Ethernet	SS-MM-1550	2 km
LHC028A	RJ45	SC	10/100 Mbps	Ethernet	SS-SM-1310	20 km
LHC029A	RJ45	SC	10/100 Mbps	Ethernet	SS-SM-1550	20 km
LHC030A	RJ45	SC	10/100 Mbps	Ethernet	SS-SM-1310	40 km
LHC031A	RJ45	SC	10/100 Mbps	Ethernet	SS-SM-1550	40 km

NOTE: Single Strand (SS) versions display the transmit channel wavelength.

About the Miniature Media Converter 10/100 Switching

The Miniature Media Converter 10/100 Switching offers plug-and-play operation, including the AutoCross feature that automatically selects between a crossover work-station or straight-through repeater hub connection depending on the connected device.

The Miniature Media Converter 10/100 Switching installs in a PowerTray, 18-slot and can also function as a standalone converter. As a standalone, the Miniature Media Converter 10/100 Switching uses either a universal, external power adapter or USB input.

The fiber port always operates at 100 Mbps Full-Duplex; the copper port auto-negotiates the connected device's speed and duplex mode (including Flow Control):

- 10 Mbps (Half or Full-Duplex)
- 100 Mbps (Half or Full-Duplex)

Installation Tip

Several models support single-strand fiber for operation. Since single-strand fiber products use optics that transmit and receive on two different wave-lengths, single-strand fiber products must be deployed in pairs. For example, connect the Miniature Media Converter 10/100 Switching, SS-SM1310-SC (which has 1310 transmit and 1550 receive) to a product which has 1550 transmit and 1310 receive. The two connected products must also have the same speed and distance capabilities (i.e. both are single-mode [10 km] or both are single/PLUS [40 km]).

NOTE: Use only the supplied power supply. Using another power source will void the warranty.